

AMENDMENTS TO THE DRAWINGS

The Examiner has objected to the drawings under 37 C.F.R. 1.84(p)(5) for not including all reference characters in the drawings. Applicants thank the Examiner for a careful review of the drawings and have added reference character "13" to Fig. 3. The amendment introduces no new matter. Applicants respectfully request withdrawal of the objection to the drawings.

REMARKS

Claims 1, 4, 6-15, 18-28, 31, and 33-42 are pending. By this Amendment, claims 3, 17, and 30 are cancelled, claims 1, 15, 28, and 37 are amended, and new claims 43-45 are added.

Claims 1, 15, and 28 have been amended to more particularly point out Applicants' claimed invention by incorporating the features of claims 3, 17, and 30, respectively. The amendments are supported in the specification, for example, at page 4, lines 11-18. New claims 43-45 are supported in the specification, for example, in Fig. 1. No new matter is introduced by the amendments.

All pending claims stand rejected. Applicants respectfully request reconsideration of the rejections based on the following analysis.

Drawing Objection Under 37 C.F.R. 1.84(p)(5)

The Examiner has objected to the drawings under 37 C.F.R. 1.84(p)(5) for not including all reference characters in the drawings. Applicants thank the Examiner for a careful review of the drawings and have added reference character "13" to Fig. 3. The amendment introduces no new matter. Applicants respectfully request withdrawal of the objection to the drawings.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 37 under 35 U.S.C. § 112, second paragraph. Applicants thank the Examiner for a careful reading of the claims and have amended claim 37 to comply with the Examiner's rejection. Accordingly, Applicants respectfully submit that the rejection under 35 U.S.C. § 112 is overcome and respectfully requests the withdrawal of the objection.

Rejection Over Deibel under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 4, 6, 11, 13, 15, 18, 19, 24, 28, 31, and 38 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,497,037 to Deibel ("Deibel"). Applicants incorporate by reference their comments from the Amendment of March 10, 2005 and Remarks of August 18, 2005. To advance prosecution of the application, Applicants have amended claims 1, 15, and 28 to more particularly point out their claimed invention. Applicants respectfully request reconsideration of the rejection in view of the following comments.

"To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." MPEP § 2142 (citing In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

With respect to claims 1, 15, and 28, Applicants assert Deibel does not disclose all of the claimed features. Prima facie obviousness is not established if all the elements of the rejected claim are not disclosed or suggested in the cited art. MPEP § 2143.03. Specifically, Deibel fails to teach or suggest a bushing wherein the bushing is coextensive along the length of the shank, as required by the claims. Applicants respectfully recognize that claims are given their broadest possible interpretation. However, with respect to the present application, the Examiner has given

"coextensive" an unreasonably broad interpretation. Specifically, the Examiner appears to have interpreted "coextensive" to mean coinciding along the length of a shorter component with respect to a longer component (in Deibel, a shorter bearing 145 with respect to a longer camshaft 128). Nonetheless, to advance prosecution, Applicants have amended claims 1, 15, and 28 to further clarify that the elongated bushing is substantially coextensive along the length of the S cam shaft and that the bushing extends from proximate the S-head to proximate the splines. Deibel does not teach or suggest such a feature, and as such, Deibel does not disclose all of the claimed features of claims 1, 15, and 28.

With respect to specific features noted by the Examiner in the claims depending from claims 1, 15, and 28, these issues are not commented on further here because they are presently moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. See MPEP § 2143.03 ("If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.") As such, Applicants respectfully request withdrawal of the rejection of 1, 4, 6, 11, 13, 15, 18, 19, 24, 28, 31, and 38 as being unpatentable over Deibel.

Rejection Over Morris in view of Eksergian under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 3, 4, 6, 7, 15, 17-20, 28, 30, 31, 33, 39, and 41 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,240,806 to Morris ("Morris") in view of U.S. Patent No. 2,382,554 to Eksergian et al. ("Eksergian"). Applicants incorporate by reference their comments from the Amendment of March 10, 2005 and Preliminary Remarks of August 18, 2005. To advance prosecution of the application, Applicants have amended claims 1,

15, and 28 to more particularly point out their claimed invention and respectfully request reconsideration of the rejection in view of the following comments.

Applicants respectfully reassert that the assembly as depicted and described in Morris is the type of assembly that the present invention improves upon. Morris does not teach or suggest a single elongate bushing rotationally supporting a S cam shank, the bushing extending from proximate the S-head to proximate the splines. Rather, Morris merely describes a brake assembly having dual bushings and alleged benefits of using spaced-apart dual bushings in combination with a cam tube. See, e.g., column 6, lines 9-27.

However, while Applicants do not acquiesce that Morris in view of Eksbergian teaches or suggests all of the elements of the claimed invention, in part for the reasons discussed in the Preliminary Remarks of August 18, 2005, there is no motivation to combine the disclosure of Morris with that of Eksbergian. There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In re Rouffet, 149 F.3d 1350, 1357 (Fed. Cir. 1998). The Examiner asserts that altering the bushing assembly of Morris with the lever brake assembly as disclosed in Eksbergian facilitates assembly by having fewer parts.

The suggested combination of Morris would require a substantial redesign of the Morris assembly and thus negating any motivation to combine the references. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. MPEP § 2143.01 (citing In re Ratti, 270 F.2d 810, at 813 (CCPA 1959) ("[T]he 'suggested combination of references would require a substantial reconstruction

and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate."')).

Specifically, if the two Morris bushings were replaced by a single elongate bushing, the lubricant fitting and corresponding opening would be blocked by the bushing (see, e.g., Morris, Fig. 4). Because the Morris bushings are press fit into the tubing, there is little, if any, effective space between the outer diameter of the bushings and the inner diameter of the tubing. Any lubricant introduced into the fitting would have nowhere to go. The grease reservoir formed between the shaft and tube and the two bushings in Morris would be eliminated by a single elongate bushing. Because the grease reservoir is an important part of Morris (see col. 6, lines 25-27, the reservoir "assist[s] in trapping and diluting any contaminants that may migrate past the seals."), a single elongate bushing could negate the effectiveness of the Morris tube.

Importantly, a single elongated bushing in the Morris assembly would also physically inhibit any lubricant from reaching the shaft. The Morris assembly would have to be substantially redesigned for lubricant to reach the shaft through the fitting. The fitting is used to introduce lubricant to lubricate the shaft. Col. 5, lines 53-56 ("A fitting 72 is mounted in an opening (not shown) formed in cam tube 54 to enable introduction of a lubricant such as heavy grease into the interior of the cam tube for lubricating cam shaft 52 and bushings 59, 60.") As such, the modification of the Morris bushings would change the principle of operation of Morris. Thus, the teachings of Morris and Eksbergian are not sufficient to render the claims prima facie obvious.

With respect to specific features noted by the Examiner in the claims depending from claims 1, 15, and 28, these issues are not commented on further here because they are presently

moot given the above analysis, although Applicants do not acquiesce in the Examiner's position. As such, Applicants respectfully request withdrawal of the rejection of claims 1, 4, 6, 7, 15, 18-20, 28, 31, 33, 39, and 41 as being unpatentable over Morris in view of Eksbergian.

Rejection Over Deibel in view of Asano under 35 U.S.C. § 103(a)

The Examiner rejected claims 12, 14, 25, 26, 27, 40, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Deibel in view of Asano. Applicants incorporate by reference their comments from the Amendment of March 10, 2005 and Preliminary Remarks of August 18, 2005. To advance prosecution of the application, Applicants have amended claims 1, 15, and 28 to more particularly point out their claimed invention. Applicants respectfully request reconsideration of the rejection in view of the following comments.

As stated above, Deibel does not include all of the limitations of claims 1, 15, or 28. Therefore, Deibel also does not teach or suggest all of the limitations of claims 12 and 14, claims 25, 26, and 27, or claims 40 and 42, each of which includes the limitations of claims 1, 15, and 29, respectively. Moreover, Asano does not teach or suggest a single elongate bushing rotationally supporting and substantially coextensive along the length of the S cam shank, the bushing extending from proximate the S-head to proximate the splines. As such, Asano does not make up for the deficiencies of Deibel with respect to claims 1, 15, or 28.

Therefore, the Examiner has not established a prima facie case of obviousness of Applicants' claimed invention over Deibel in view of Asano. As such, because Deibel in view of Asano does not teach or suggest all of the limitations of claims 12, 14, 25, 26, 27, 40, and 42,

Applicants respectfully request withdrawal of the rejection of claims 12, 14, 25, 26, 27, 40, and 42 as being unpatentable over Deibel in view of Asano.

Rejection Over Morris in view of Eksergian and Asano under 35 U.S.C. § 103(a)

The Examiner rejected claims 12, 14, 25-27, 40, and 42 under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Eksergian and further in view of Asano. Applicants incorporate by reference their comments from the Amendment of March 10, 2005 and Preliminary Remarks of August 18, 2005. To advance prosecution of the application, Applicants have amended claims 1, 15, and 29 to more particularly point out their claimed invention. Applicants respectfully request reconsideration of the rejection in view of the following comments.

As stated above, Morris in view of Eksergian does not include all of the limitations of claims 1, 15, or 28. Therefore, Morris in view of Eksergian also does not teach or suggest all of the limitations of claims 12 and 14, claims 25, 26, and 27, or claims 40 and 42, each of which includes the limitations of claim 1, 15, and 29, respectively. As stated, Asano does not teach or suggest a single elongate bushing rotationally supporting and substantially coextensive along the length of the S cam shank, the bushing extending from proximate the S-head to proximate the splines. As such, Asano does not make up for the deficiencies of Morris in view of Eksergian with respect to claims 1, 15, or 28.

Therefore, because Morris in view of Eksergian and Asano does not teach or suggest all of the limitations of claims 12, 14, 25-27, 40, and 42, Applicants respectfully request withdrawal of the rejection of the claims as being unpatentable over Morris in view of Eksergian and Asano.



Rejection Over Morris in view of Eksergian and Boyer under 35 U.S.C. § 103(a)

The Examiner rejected claims 8-10, 21-23, and 35-37 under 35 U.S.C. § 103(a) as being unpatentable over Morris in view of Eksergian and further in view of U.S. Patent No. 6,450,073 to Boyer et al. ("Boyer"). Applicants incorporate by reference their comments from the Amendment of March 10, 2005 and Preliminary Remarks of August 18, 2005. To advance prosecution of the application, Applicants have amended claims 1, 15, and 29 to more particularly point out their claimed invention. Applicants respectfully request reconsideration of the rejection in view of the following comments.

As stated above, Morris in view of Eksergian does not include all of the limitations of claims 1, 15, or 28. Therefore, Morris in view of Eksergian also does not teach or suggest all of the limitations of claims 8-10, claims 21-23, or claims 35-37, each of which includes the limitations of claim 1, 15, and 29, respectively. Moreover, Boyer does not teach or suggest a single elongate bushing rotationally supporting and substantially coextensive along the length of the S cam shank, the bushing extending from proximate the S-head to proximate the splines. As such, Boyer does not make up for the deficiencies of Morris in view of Eksergian with respect to claims 1, 15, or 28.

Because Morris in view of Eksergian and Boyer does not teach or suggest all of the limitations of claims 8-10, 21-23, and 35-37, Applicants respectfully request withdrawal of the rejection of claims 8-10, 21-23, and 35-37 as being unpatentable over Morris in view of Eksergian and Boyer.

New Claims


Because the independent claims from which claims 43-45 depend are nonobvious for the foregoing reasons, new dependent claims 43-45 are also nonobvious. See MPEP § 2143.03 (“If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious.”) Accordingly, Applicants respectfully request favorable consideration and allowance of new claims 43-45.

Conclusion

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Erik M. Drange', with a long horizontal flourish extending to the right.

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